Hands on exercise on Pandas(Dataframe):

import pandas as pd

# Creating a new dataset

data = {

"Employee\_ID": [101, 102, 103, 104, 105, 106],

"Name": ["Rajesh", "Meena", "Suresh", "Anita", "Vijay", "Neeta"],

"Department": ["HR", "IT", "Finance", "IT", "Finance", "HR"],

"Age": [29, 35, 45, 32, 50, 28],

"Salary": [70000, 85000, 95000, 64000, 120000, 72000],

"City": ["Delhi", "Mumbai", "Bangalore", "Chennai", "Delhi", "Mumbai"]

}

df = pd.DataFrame(data)

print(df)

'''Exercise 1: Rename Columns

Rename the "Salary" column to "Annual Salary" and "City" to "Location".

Print the updated DataFrame.'''

df\_renamed = df.rename(columns={"Salary": "Annual Salary", "City": "Location"})

print(df\_renamed)

'''Exercise 2: Drop Columns

Drop the "Location" column from the DataFrame.

Print the DataFrame after dropping the column.'''

df\_dropped = df.drop(columns=["City"])

print(df\_dropped)

'''Exercise 3: Drop Rows

Drop the row where "Name" is "Suresh".

Print the updated DataFrame.'''

df.drop(df[df["Name"] == "Suresh"].index, inplace=True)

print(df)

'''Exercise 4: Handle Missing Data

Assign None to the "Salary" of "Meena".

Fill the missing "Salary" value with the mean salary of the existing employees.

Print the cleaned DataFrame.'''

df.loc[df['Name'] == 'Meena', 'Salary'] = None

mean\_salary = df['Salary'].mean()

df['Salary'] = df['Salary'].fillna(mean\_salary)

print(df)

'''Exercise 5: Create Conditional Columns

Create a new column "Seniority" that assigns "Senior" to employees aged 40 or above and "Junior" to employees younger than 40.

Print the updated DataFrame.'''

df['Seniority'] = df['Age'].apply(lambda x: 'Senior' if x>=40 else 'Junior')

print(df)

'''Exercise 6: Grouping and Aggregation

Group the DataFrame by "Department" and calculate the average salary in each department.

Print the grouped DataFrame.'''

df\_grouped = df.groupby('Department')["Salary"].mean()

print(df\_grouped)